

CLAIMS

1. Dental unit, which includes a feed water line 10 for leading water to at least one instrument and/or to other points of use of water A, B, C, ...of the dental unit, characterized in that

the feed water line 10 includes a pressure chamber 12, which is in connection with a compressed air line 11, the pressure chamber 12 being arranged in functional connection with pressure control means 14, 15, and

upstream of the said pressure chamber 12 a pump 13, which is arranged to be able to pump water to the said pressure chamber 12 also when it is pressurized.

2. Dental unit according to claim 1, characterized in that the said pressure control means 14, 15 comprise a valve arrangement, with help of which air can be led to the pressure chamber to pressurize it, as well as purged from the chamber.

3. Dental unit according to claim 2, characterized in that the said valve arrangement comprises at least one three-way valve 15 or an equivalent arranged in the compressed air line 11, by which valve the said pressure chamber 12 may be connected to the compressed air line 11, on one hand, to pressurize the chamber, and break off the said connection to the compressed air line 11 and connect the pressure chamber 12 to another pressure, such as atmospheric pressure, on the other.

4. Dental unit according to one of the claims 1 - 3, characterized in that in the said pressure chamber 12 there has been arranged means 16 for recognizing height of the fluid level, at least one limit value of the fluid level.

5. Dental unit according to claim 4, characterized in that the said pump 13 is arranged to pump water to the pressure chamber 12 periodically as controlled by the adjustment signals received from the said fluid level recognition of the pressure chamber 12.

6. Dental unit according to one of the claims 1 - 5, characterized in that in the feed water line 10 upstream of the said pump 13 there has been arranged a reservoir chamber or basin 22, which can be used as water storage for the said pump 13.

7. Dental unit according to claim 6, characterized in that in the said reservoir chamber or basin 22 there has been arranged means and/or a structure, like an overflow edge 23, to ensure that the fluid level cannot rise higher than desired.

8. Dental unit according to claim 6 or 7, characterized in that the said reservoir chamber or basin 22 forms at least a partly open space, which is in connection to atmospheric pressure.

9. Dental unit according to claim 8, characterized in that at a distance from the fluid level of the said open space, regarding its said set maximum height, favourably at a distance above the said fluid level, there has been arranged a feed link 21 for the water to be fed from an external source to the unit, as from public water system.

10. Dental unit according to one of the claims 6 - 9, characterized in that in the said reservoir chamber or basin 22, or at a distance from the liquid level of the said open space, regarding its said set maximum height, favourably at a distance above the fluid level, there has been arranged a detergent feed link 24.

11. Dental unit according to one of the claims 6 - 10, characterized in that in the feed water line 10 downstream of the said pressure chamber 12 there has been arranged a branch line 25 leading to the said reservoir chamber or basin 22, via which line fluid can be circulated from the pressure chamber 12 to the said reservoir chamber or basin 22.

12. Dental unit according to one of the claims 1 - 11, characterized in that the said pressure chamber 12 is arranged detachably attachable to the feed water line 10.

13. Dental unit according to one of the claims 1 - 12, characterized in that in the said pressure chamber 12 there has been arranged a closable feed opening, e.g. for feeding detergent into the pressure chamber.

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14. Method for feeding water to the instruments of a dental unit and/or to other points of use of water of a dental unit, whereupon the unit comprises a feed water line which is in connection to the said points of use of water, characterized in that in the feed water line, upstream of the said points of use of water there has been arranged a pressure chamber, which is in connection to a compressed air line, the pressure chamber being pressurizable and the pressure controllable with help of pressure control means belonging to the arrangement, in which arrangement the water leaving the said pressure chamber, i.e. the water that has been used in the said points of use of water, is replaced by pumping water into the pressure chamber with a pump arranged in the feed water line upstream of the said pressure chamber, in case the pressure chamber being pressurized against pressure prevailing in the pressure chamber.

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15. Method according to claim 14, characterized in that pressure in the said pressure chamber is controlled by leading air into it or purging air from it through the said pressure control means.

16. Method according to claim 14 or 15, characterized in that the said pressure control means include at least one three-way valve or an equivalent connected to the compressed air line, which valve, depending on the mode of use of the dental unit, is kept either in a position where it connects the compressed air line to the pressure chamber or in a position where it breaks off the said connection and connects the pressure chamber to another, especially to atmospheric pressure.

17. Method according to one of the claims 14 - 16, characterized in that height of the fluid level in the pressure chamber is measured and the said pump located upstream of the pressure chamber is started when the fluid level is detected to reach or gone below a limit value set for it.

18. Method according to one of the claims 14 - 17, characterized
in that water which is stored in a chamber or basin arranged in the
feed water line upstream of the pump is used as feed water for the said
5 pump.

19. Method according to claim 18, characterized in that the
said chamber or basin is arranged to be a space at least partly open
and in connection to atmospheric pressure, whereby water is fed to that
10 at least partly open storage space via that connection open to the
ambient in such a way that the fluid level in the said storage space
can rise to a certain level at the most and that water feed to that
storage space takes place through such a feed link, which with respect
to that maximum value of the fluid level is located at a distance from
15 the said fluid level.

20. Method according to claim 19, characterized in that water
from a public water system is fed via the said feed link.

20 21. Method according to one of the claims 18 - 20, characterized
in that detergent of the water lines is fed into the said chamber or
basin arranged in the feed water line upstream of the pump.

22. Method according to one of the claims 18 - 21, characterized
25 in that in the feed water line downstream of the said pressure
chamber is arranged a branch line to the said chamber or basin,
arranged upstream of the pump, via which line water and/or detergent in
the feed water line is circulated.

30 23. Method according to one of the claims 14 - 22, characterized
in that the said pressure chamber is arranged detachably attachable
and is filled with detergent of the water lines or with purified water,
or is replaced with a corresponding other chamber.

35 24. Method according to one of the claims 14 - 23, characterized
in that the said pressure chamber is filled with detergent, or is
replaced with a chamber containing detergent, the chamber is
pressurized and detergent is driven to the water lines.